

$$\textcircled{1} \textcircled{a} \begin{aligned} y &= 2x + 7 \\ y &= 4x - 3 \end{aligned}$$

$$\begin{array}{r} 2x + 7 = 4x - 3 \\ -2x \quad -2x \end{array}$$

$$\begin{array}{r} 7 = 2x - 3 \\ +3 \quad +3 \end{array}$$

$$10 = 2x$$

$$\boxed{x = 5}$$

$$\begin{array}{l} y = 2(5) + 7 \\ \boxed{y = 17} \end{array}$$

$$\textcircled{b} \begin{aligned} y &= 3x + 5 \\ y &= 4x + 3 \end{aligned}$$

$$\begin{array}{r} 3x + 5 = 4x + 3 \\ -3x \quad -3x \end{array}$$

$$5 = x + 3$$

$$\boxed{x = 2}$$

$$\begin{array}{l} y = 3(2) + 5 \\ \boxed{y = 11} \end{array}$$

$$\textcircled{c} \begin{aligned} y &= 3x - 8 \\ y &= 5x - 18 \end{aligned}$$

$$\begin{array}{r} 3x - 8 = 5x - 18 \\ -3x \quad -3x \end{array}$$

$$\begin{array}{r} -8 = 2x - 18 \\ +18 \quad +18 \end{array}$$

$$10 = 2x$$

$$\boxed{x = 5}$$

$$\begin{array}{l} y = 3(5) - 8 \\ \boxed{y = 7} \end{array}$$

2) a) $y = \frac{3x+1}{4}$
 $3x + 4y = 19$

$$3x + 4(3x+1) = 19$$

$$3x + 12x + 4 = 19$$

$$15x + 4 = 19$$

$$-4 \quad -4$$

$$15x = 15$$

$$x = 1$$

$$y = 3(1) + 1$$

$$y = 7$$

b) $x = 2y + 1$
 $2x - 3y = -11$

$$2(2y+1) - 3y = -11$$

$$4y + 2 - 3y = -11$$

$$y + 2 = -11$$

$$-2 \quad -2$$

$$y = -13$$

$$x = 2(-13) + 1$$

$$x = -25$$

c) $2x + 1 = y$
 $9x - 2y = 18$

$$9x - 2(2x+1) = 18$$

$$9x - 4x - 2 = 18$$

$$5x - 2 = 18$$

$$+2 \quad +2$$

$$5x = 20$$

$$x = 4$$

$$2(4) + 1 = y$$

$$y = 9$$

$$\begin{array}{r} \textcircled{3} \textcircled{a} \quad 2x + 5y = 13 \\ + -2x - 2y = -10 \\ \hline \end{array}$$

$$0 \quad 3y = 3$$

$$\boxed{y = 1}$$

$$2x + 5(1) = 13$$

$$\begin{array}{r} 2x + 5 = 13 \\ -5 \quad -5 \end{array}$$

$$2x = 8$$

$$\boxed{x = 4}$$

$$\begin{array}{r} \textcircled{b} \quad 6x + y = 7 \\ + \quad 3x - y = -7 \\ \hline \end{array}$$

$$9x = 0$$

$$\boxed{x = 0}$$

$$6(0) + y = 7$$

$$\boxed{y = 7}$$

$$\begin{array}{r} \textcircled{c} \quad 3x - 2y = 9 \\ + \quad 5x + 2y = 31 \\ \hline \end{array}$$

$$\begin{array}{r} 8x \quad = 40 \\ \hline 8 \quad 8 \end{array}$$

$$\boxed{x = 5}$$

$$5(5) + 2y = 31$$

$$\begin{array}{r} 25 + 2y = 31 \\ -25 \quad -25 \end{array}$$

$$\begin{array}{r} 2y = 6 \\ \hline y = 3 \end{array}$$

$$\textcircled{4} \textcircled{a} \begin{aligned} 4x + 2y &= 10 \\ (2) 3x - y &= 0 \end{aligned}$$

$$\begin{array}{r} 4x + 2y = 10 \\ + 6x - 2y = 0 \\ \hline 10x = 10 \end{array}$$

$$10x = 10$$

$$\boxed{x = 1}$$

$$4(1) + 2y = 10$$

$$\boxed{y = 3}$$

$$\textcircled{b} \begin{aligned} -3x + 2y &= 7(2) \\ 6x - 3y &= -12 \end{aligned} \quad \textcircled{c} \begin{aligned} (3) 3x + 5y &= 29 \\ (5) 2x - 3y &= -6 \end{aligned}$$

$$\begin{array}{r} -6x + 4y = 14 \\ 6x - 3y = -12 \\ \hline \boxed{y = 2} \end{array}$$

$$6x - 3(2) = -12$$

$$\begin{array}{r} 6x - 6 = -12 \\ +6 \quad +6 \end{array}$$

$$6x = -6$$

$$\boxed{x = -1}$$

$$\begin{array}{r} 9x + 15y = 87 \\ 10x - 15y = -30 \\ \hline 19x = 57 \end{array}$$

$$19x = 57$$

$$\boxed{x = 3}$$

$$2(3) - 3y = -6$$

$$\begin{array}{r} 6 - 3y = -6 \\ +6 \quad +6 \end{array}$$

$$-3y = 0$$

$$\boxed{y = 0}$$